

HAMMOND

EXPANDERS

Covering the World

APPLICATIONS

SLI/ENGINE STARTING BATTERIES

- Automobiles
- Aircraft
- Commercial Vehicles
- Lawn and Garden Equipment
- Recreational Vehicles
- Motorcycles
- Marine

MOTIVE POWER BATTERIES

- Fork Lift Trucks
- Golf Cars
- Mining Equipment
- Sweepers & Scrubbers

STANDBY POWER BATTERIES

- Telecommunications
- Uninterruptible Power Supplies
- Emergency Lighting
- Alarm Systems
- Switchgear Operation

VALVE REGULATED BATTERIES

- Absorptive Glass Mat (AGM)
- Gel
- All Applications

WHY BLENDED EXPANDERS?

- Precise control of component weights
- Precise control of bag weights
- Bag weights are customized to match the battery manufacturer's addition rate and paste batch size
- Every expander batch is tested for formula control
- Better uniformity of paste mix
- Elimination of errors in paste mixing
- Purchase only one stock keeping unit
- Reduce inventory cost and storage space
- Reduce paperwork transactions
- Reduce waste disposal
- Lower cost



Electric Vehicle Expanders

Product Technical Data

Uses:

Electric and Hybrid Vehicles

Description:

Formulated to provide outstanding battery performance and life in the partial state of charge operation typical of electric cars and hybrid vehicles.

Physical Properties:

Odor.....None
Color.....Grayish black
Consistency.....Powder
Addition to Paste Mix.....Dry

Bag Sizes and Weight Ranges:

Medium.....12 – 19 lbs.
Large.....20 – 28 lbs.

Selection Guide:

Application	Expander Type	Ash Content	Addition Rate
Electric/Hybrid Vehicles	HE-C-6-MaxLife	0.8 ± 0.25%	3.00 %

Impurities:

Element	Typical (ppm)	Maximum (ppm)
Iron	100	200
Copper	100	170
Nickel	5	10
Manganese	5	10



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SLI/Engine Starting Expanders

Product Technical Data

Uses:

Automobiles, Lawn and Garden Equipment, Recreational Vehicles and Marine

Description:

Formulated to provide outstanding battery performance at very high discharge rates in sub-zero temperatures.

Physical Properties:

Odor.....Vanilla or wood pulp-like
Color.....Grey to Black
Consistency.....Powder
Addition to Paste Mix.....Dry
Density.....Varies by formula

Bag Sizes and Weight Ranges:

Small.....6 lbs. – 13.2 lbs.
Medium.....12 lbs. – 27.9 lbs.
Large.....>18 lbs.

Selection Guide:

Application	Expander Type	Composition	Ash Content	Addition Rate
Automobiles Rec. Vehicles Marine Lawn and Garden	HE-4640; A, A/H, H, V	Blanc Fixe Carbon Black Sodium Lignosulfonate	51 ± 5.0%	1.00%
	HE-631; A, A/H, H, P	Blanc Fixe Carbon Black Sodium Lignosulfonate	65.6 ± 5.0%	1.00%
	HE-PORITE 90; A, H	Blanc Fixe Carbon Black Sodium Lignosulfonate	66.5 ± 2.5%	1.00%
	HE-5350; H	Blanc Fixe Carbon Black Sodium Lignosulfonate	48.8 ± 5.0%	1.00%

Impurities:

Element	Typical (ppm)	Maximum (ppm)
Iron	100	200
Copper	100	170
Nickel	5	10
Manganese	5	10



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Valve Regulated Expanders

Product Technical Data

Uses:

Telecommunications, Uninterruptible Power Supplies, Security/Lighting, Motive Power and Solar Energy

Description:

Formulated to provide outstanding battery performance over a wide range of discharge rates and depths of discharge.

Physical Properties:

Odor.....Vanilla or wood pulp-like
Color.....Grey to Black
Consistency.....Powder
Addition to Paste Mix.....Dry
Density.....Varies by formula

Bag Sizes and Weight Ranges:

Small.....6 lbs. – 13.2 lbs.
Medium.....12 lbs. – 27.9 lbs.
Large.....>18 lbs.

Selection Guide:

Application	Expander Type	Composition	Ash Content	Addition Rate
Telecommunications UPS Security/Lighting Motive Power Solar Energy	HE-120; H	Blanc Fixe Carbon Black Sodium Lignosulfonate	77.8 ± 5.0%	2.00%
	HE-150; VA, G	Blanc Fixe Carbon Black Sodium Lignosulfonate	50.1 ± 5.0%	2.00%
	HE-1160; H	Blanc Fixe Carbon Black Sodium Lignosulfonate	72.7 ± 5.0%	1.00%
	HE-KXLF	Blanc Fixe Carbon Black Sodium Lignosulfonate	84.6 ± 2.5%	2.00%

Impurities:

Element	Typical (ppm)	Maximum (ppm)
Iron	100	200
Copper	100	170
Nickel	5	10
Manganese	5	10



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Motive Power Expanders

Product Technical Data

Uses:

Fork Lift Trucks, Sweepers/Scrubbers, Golf Cars and Mining Equipment

Description:

Formulated to provide outstanding battery performance at moderate discharge rates with very high depths of discharge.

Physical Properties:

Odor.....Vanilla or wood pulp-like
Color.....Grey to Black
Consistency.....Powder
Addition to Paste Mix.....Dry
Density.....Varies by formula

Bag Sizes and Weight Ranges:

Small.....6 lbs. – 13.2 lbs.
Medium.....12 lbs. – 27.9 lbs.
Large.....>18 lbs.

Selection Guide:

Application	Expander Type	Composition	Ash Content	Addition Rate
Fork Lift Trucks Sweepers/Scrubbers Golf Cars Mining Equipment	HE-115	Blanc Fixe Barytes Carbon Black Sodium Lignosulfonate Wood Flour	89.0 ± 2.5%	2.00%
	HE-120; H	Blanc Fixe Carbon Black Sodium Lignosulfonate	77.8 ± 2.5%	2.00%
	HE-1511; H, S	Blanc Fixe Barytes Carbon Black Sodium Lignosulfonate	88.6 ± 2.5%	2.00%

Impurities:

Element	Typical (ppm)	Maximum (ppm)
Iron	100	200
Copper	100	170
Nickel	5	10
Manganese	5	10



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Standby Power Expanders

Product Technical Data

Uses:

Telecommunications, Uninterruptible Power Supplies, Security/Lighting and Switchgear

Description:

Formulated to provide outstanding battery performance at moderate discharge rates at moderate temperatures.

Physical Properties:

Odor.....Vanilla or wood pulp-like
Color.....Grey to Black
Consistency.....Powder
Addition to Paste Mix.....Dry
Density.....Varies by formula

Bag Sizes and Weight Ranges:

Small.....6 lbs. – 13.2 lbs.
Medium.....12 lbs. – 27.9 lbs.
Large.....>18 lbs.

Selection Guide:

Application	Expander Type	Composition	Ash Content	Addition Rate
Telecommunications UPS Switchgear Security/Lighting	HE-KXLF	Blanc Fixe Carbon Black Sodium Lignosulfonate	84.6 ± 2.5%	2.00%
	HE-1160; H	Blanc Fixe Carbon Black Sodium Lignosulfonate	72.7 ± 2.5%	1.00%
	HE-501; E, S	Blanc Fixe Carbon Black Sodium Lignosulfonate Others	70.7 ± 5.0%	1.00%

Impurities:

Element	Typical (ppm)	Maximum (ppm)
Iron	100	200
Copper	100	170
Nickel	5	10
Manganese	5	10



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EXCEEDING CUSTOMER'S EXPECTATIONS

At HAMMOND EXPANDERS we take care of the details.

We ensure precise weighing and mixing. We also thoroughly test every batch. We even package our expanders with the exact weight for your paste formula and batch size. We remove all guesswork and uncertainty for negative paste mixing and guarantee repeatability time after time.

All you have to do is add the expander to your paste mix... and relax.



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Hammond Expanders, USA

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